

kondnerdr.txt

17 You can answer.
 18 THE WITNESS: Well, it may be that the
 19 particular specific location with the fact that
 20 it's got that interior vinyl coating. I don't
 21 know why one identical to it wouldn't fail if
 22 everything is the same, but things usually are
 23 not -- you know, every two items are not the
 0119 same. It's like people. Everyone is unique.
 1 There's only one of you, one of me, one of him,
 2 one of her. That's it.
 3
 4 BY MR. SIMPSON:
 5 Q Can you give the jury a list of the things
 6 that could cause a home to fail more quickly,
 7 variables, with vinyl-coated gypsum?
 8 A Well, if you run the air conditioning real
 9 high, then you're going to have -- you know, your
 10 outside and your inside temperatures are going to be
 11 different. There's going to be a greater amount of
 12 moisture that's going to lower that dewpoint, and
 13 you're going to get more moisture in if you're running
 14 the air conditioners real hard or real low.
 15 Q Anything else?
 16 A Well, if for some reason something happened
 17 and you created a pressure difference and you got,
 18 say, a negative pressure on the inside that would pull
 19 more air in, that could be a reason.
 20 Q Do you know whether this home has negative
 21 pressure problems?
 22 A I'd have to go back and look at Parks'
 23 report to see whether he's got a negative pressure on
 0120 there. I don't recall. "Slight pressure imbalance,"
 1 he's got for this particular home. He says, "The
 2 ventilation system within the Murphy home has been
 3 installed in an inappropriate manner which hinders its
 4 effectiveness." So he's saying here that he's got a
 5 slight pressure imbalance, so he's got a negative
 6 pressure.
 7 Q Do you know who's responsible for the
 8 improper installation?
 9 MR. PELS: Objection. Of what?
 10 THE WITNESS: Run that by me again. Who?
 11 BY MR. SIMPSON:
 12 Q Do you know, if at all, whether this furnace
 13 is installed right?
 14 A Well, apparently Bobby Parks points to a
 15 problem with it.
 16 Q Is that the limit of your familiarity, what
 17 he's written there?
 18 A I haven't seen it. He's pointing out here
 19 duct leakage. He's got that very clearly in here.
 20 Q So you think he found a problem with
 21 pressure?
 22 A I think he's touched on it. He's found
 23 something there.
 0121 1 Q Well, in your judgment --
 2 A But that still doesn't relieve the fact that
 3 you've got the vinyl wall, you've got the moisture
 4 coming in. It may help increase the pathway and the
 5 force on it.
 6 Q Well, when you rendered your report, Doctor,
 7

kondnerdr.txt

8 did you take into account Bobby's opinion that there
9 were negative pressure problems?

10 A I saw it. I looked at it.

11 Q And did that affect your opinion?

12 A I don't know whether I mentioned that or
13 not, but . . .

14 Q Could you be wrong about that?

15 MR. PELS: Objection.

16 THE WITNESS: I don't think so.

17 BY MR. SIMPSON:

18 Q You said it was important how high the air
19 conditioning is kept, right?

20 A Yep.

21 Q How do these people keep their air
22 conditioner?

23 A I don't know, but you were asking

0122

1 hypothetical questions before, and now you're trying
2 to take those hypothetical questions and insert it
3 into the Murphy home. I don't think that's quite
4 kosher.

5 Q well, you said it was important. Is it
6 important in every case but Murphy, or is it important
7 for Murphy, too?

8 A well, it's important, but it's an order of
9 magnitude of effect.

10 Q All right. So what's the temperature of the
11 Murphy home?

12 A I don't know. I don't know. I have to go
13 back and look. Maybe they keep it at 73 degrees and
14 it's up to 80, I don't know, or maybe it's down to 67.
15 I have no way of telling. Neither do they.

16 Q So it's important, but you don't know for
17 this case?

18 A I don't know for this case. This came about
19 because you asked a hypothetical question about why
20 some that are vinyl fail and some don't, and I gave
21 you some reasons why some of them don't and why some
22 of them do. Now, that's not necessarily reflected
23 back here in the Murphy home.

0123

1 Q Well, it's --

2 A Now you'd like it reflected in the Murphy
3 home.

4 Q It's important for other homes, isn't it?

5 A Give me another home. These are the only
6 homes I know down there.

7 Q Dr. Kondner, for you to do a valid and
8 thorough scientific evaluation of this home, wouldn't
9 you need to know what the pressures are if there's
10 pressure imbalances?

11 MR. PELS: Objection.

12 THE WITNESS: It would be nice to know what
13 those pressures were. He seems to think that
14 these are minor, and he has detected the moisture
15 in the inside of the wall. It has a situation
16 where you have a vinyl on the inside of the wall.
17 You have an air flow, hot, warm, moist air flow
18 in that's condensing on the inside of the wall
19 that has a moisture content between 25 and
20 40 percent, and you have mold developing and
21 growing. Now, you tell me.

22 BY MR. SIMPSON:

kondnerdr.txt

23 Q Let me ask my question. Isn't it important

0124

1 for you to know the pressure imbalance issues with
2 this home to form your opinion?

3 MR. PELS: Objection.

4 THE WITNESS: I think they're minor.

5 BY MR. SIMPSON:

6 Q Is it important for you to know how the
7 Murphys keep their thermostat in the summertime for
8 you to form your opinion?

9 MR. PELS: Objection; asked and answered.
10 You can answer again.

11 THE WITNESS: I don't know. I don't know
12 what their temperatures were, and I don't know
13 that when they -- if somebody even asks them,
14 whether they're getting the proper answer or not.

15 BY MR. SIMPSON:

16 Q Well, I mean wouldn't you agree with me that
17 the dewpoint has to be reached before this home can
18 condense?

19 A Exactly.

20 Q And to know whether the dewpoint is reached,
21 wouldn't you have to know what temperature they keep
22 their home at relative to the dewpoint in that area of
23 the country?

0125

1 A You'd probably have to know what the
2 dewpoint is outside, what the temperature is outside,
3 what the relative humidity is outside. You would have
4 to know a lot of things, which we don't have in here.
5 The only thing I can do is work with what I got.

6 Q That's my point, Doctor.

7 A And I think I've got enough here to make the
8 call.

9 Q Isn't all that information available through
10 reliable weather station data?

11 MR. PELS: Objection.

12 THE WITNESS: No, not necessarily. I mean
13 we said before that this particular -- you can
14 take another house identical to this and put it
15 in another location in the general area, and you
16 may have a problem, you may not have a problem
17 because of local conditions.

18 BY MR. SIMPSON:

19 Q Right, but do you know whether the local
20 condition information is available from weather
21 reporting?

22 A That's too gross. I think it's too gross.
23 In other words, it's not defined enough. It's like

0126

1 having a number and it holds for the whole eastern
2 part of the United States. That's nonsense. It's not
3 sliced that fine.

4 Q You don't think it is?

5 A No, I don't think it is.

6 Q Have you ever checked?

7 A I've had some occasions where I have looked
8 at it, and I've been in a spot and I know what it was
9 and I know what the Weather Bureau said, and they're
10 different.

11 Q Who keeps weather data; do you know?

12 A Who keeps it? NOAA.

13 Q Have you ever asked for NOAA data?

kondnerdr.txt

14 A Yeah, I've had some.
 15 Q Have you seen it?
 16 A Yep.
 17 Q For this home?
 18 A Oh, for this home? No.
 19 Q Why didn't you ask for it?
 20 MR. PELS: Objection.
 21 THE WITNESS: I depended on Bobby Parks and
 22 Roy Bonney's report. I'm not going to go fishing
 23 all over the place for what could turn out to be

0127
 1 nothing definitive, nothing effective.
 2 BY MR. SIMPSON:
 3 Q Sir, you don't know what it says, because
 4 you haven't looked, right?
 5 MR. PELS: Objection; form, foundation.
 6 You can answer.
 7 THE WITNESS: I don't think it's important.
 8 I don't think it's significant for this house. I
 9 think we've got the significant evidence on this
 10 house, and it's in those reports.

11 BY MR. SIMPSON:
 12 Q Sir, how can you rule out what importance
 13 the NOAA weather data might play if you haven't even
 14 looked at it?
 15 MR. PELS: Objection; form, foundation.
 16 THE WITNESS: Well, you're in a hot humid
 17 climate; okay? And you've got vinyl on the
 18 inside of the wall, and you've got people that
 19 like to live comfortably in air conditioning.
 20 Hey, you know, the hot air goes through, hits the
 21 back of that interior wall that's got the vinyl
 22 on it. It's not permeable enough. It condenses,
 23 the water accumulates, and the mold starts

0128
 1 growing.
 2 BY MR. SIMPSON:
 3 Q Where does the air flow through the exterior
 4 wall? Where exactly does it go in?
 5 A It can go in any place that there is even
 6 the slightest opening, plus the fact that it goes in
 7 through whatever you got in front of it.
 8 Q Do you know whether this home complies with
 9 the opaque envelope requirements of the HUD code?
 10 MR. PELS: Objection; form and foundation.
 11 You can answer.
 12 THE WITNESS: Well, I think obviously it
 13 doesn't, because you wouldn't have all that air
 14 condensing in there.

15 BY MR. SIMPSON:
 16 Q Tell the jury what the outside of the wall
 17 looks like.
 18 A The outside of the wall? You mean the
 19 exterior wall?
 20 Q Yeah.
 21 A I don't have the photographs here, so I
 22 can't. It's probably -- I think it's vinyl, and it's
 23 not tight. None of that is tight. You could go seal

0129
 1 it if you wanted to.
 2 Q Is vinyl siding designed to be tight?
 3 A It's supposed to give a little bit when you
 4 get temperature changes, the sun shines on part of it,

kondnerdr.txt

5 and then things move a little bit.

6 Q Is vinyl siding intended to be an air
7 barrier?

8 A It's not intended to be.

9 Q Is vinyl siding intended to be a
10 condensation barrier?

11 A No.

12 Q Are there holes in vinyl siding that are
13 intended for ventilation?

14 A There are openings.

15 Q Where are they?

16 A Well, any of the joints would have them in.
17 Any place they're stuck together, vertical,
18 horizontal, and plus you have ventilation areas
19 underneath the house.

20 Q Is there anywhere else in the piece of vinyl
21 siding where there is ventilation other than at the
22 joint?

23 A You may have it up top, near the peak of the
0130 roof.

1 Q Isn't it true that the vinyl siding plays no
2 part at all in air or moisture intrusion or
3 ventilation?

4 MR. PELS: Objection.

5 You can answer.

6 THE WITNESS: It allows it to go through.

7 BY MR. SIMPSON:

8 Q Okay. Well, what's underneath that vinyl in
9 the Murphy home?

10 A It's probably some kind of a wallboard. I
11 don't know. I'd have to go back and look at his
12 description on it. I never saw it. For the 12,000th
13 time, I was never there, I never viewed it.

14 Q Well, that's my point.

15 A I know that's your point.

16 Q My point is you've never looked at it to
17 know whether it's leaking air or not.

18 A Bobby Parks has demonstrated that it's
19 leaking air.

20 Q Where? Where does it say that?

21 A Well, let's take Bobby Parks' report and go
22 through it again.
23

0131

1 (Whereupon, a short recess was taken.)

2 THE WITNESS: On Page 5 in Bobby Parks'
3 report he's got two photographs there. One of
4 them looks like it's up near the marriage line.
5 The other one looks like it's up in a corner
6 somewhere.

7 BY MR. SIMPSON:

8 Q Do you know what those pictures mean?

9 A Well, yeah, I've seen him do it, and the
10 brighter the red, the more infiltration you got.

11 Q Are you sure that's just not heat
12 differences?

13 A Well, where do heat differences come from?

14 Q The sun.

15 A It comes from that hot air.

16 Q The sun, insulation voids, a variety of
17 other sources.

18 A Concentrated like that? Huh-uh.

19 Q You don't think so?

kondnerdr.txt

20 A No.
 21 Q Have you ever been trained in thermographic
 22 imaging?
 23 A No, I don't believe so.
 0132
 1 Q You don't know the first thing about it, do
 2 you?
 3 MR. PELS: Objection; form and foundation.
 4 THE WITNESS: I know when I see his
 5 photographs, and I've asked him about these
 6 photographs, that's where the air is coming in,
 7 and that's the hot, that's the heat, that's --
 8 the hot air is coming through.
 9 BY MR. SIMPSON:
 10 Q So what picture is it that you're seeing hot
 11 air come in?
 12 A Well, look at Figures 7 and 9, and he's got
 13 the undeveloped areas on the opposite photographs.
 14 Q Look at Figure 9. Do you know where that is
 15 in the house?
 16 A That's by the marriage line.
 17 Q Is that an exterior wall?
 18 A No, it's not an exterior wall.
 19 Q So you don't know whether that picture--
 20 that picture doesn't even show air coming into an
 21 exterior wall, does it?
 22 A No, but it shows a source of leakage.
 23 Q You can't link that source of leakage to any
 0133
 1 exterior wall.
 2 A Wait a minute now. What are we looking for?
 3 Are we looking for condensation, or are we looking for
 4 big areas of air flow? Look, you got the vinyl wall
 5 in there, and you're not going to see it going through
 6 the wall, because the vinyl is blocking it. By
 7 definition you're not going to see it there.
 8 Q Doctor, I asked you for evidence in
 9 Mr. Parks' report that air from the outside of the
 10 house was penetrating the exterior walls.
 11 A Oh. Sorry.
 12 MR. PELS: Objection.
 13 THE WITNESS: It's not go to penetrate those
 14 walls, because you got vinyl on it, but you got
 15 leaks, you got leaks nevertheless.
 16 BY MR. SIMPSON:
 17 Q That's my question. You say Figure 9 is a
 18 leaks, but Figure 9 doesn't even relate to an exterior
 19 wall.
 20 MR. PELS: Objection.
 21 THE WITNESS: So? Look, the exterior walls
 22 has vinyl on them. They're not permeable enough.
 23 You're not going to get the air going through
 0134
 1 there. You're going to get the air going against
 2 it and condensing. Somehow we got a
 3 miscommunication here somewhere.
 4 BY MR. SIMPSON:
 5 Q What I'm asking for, sir, is specific
 6 evidence that you have relied on to demonstrate that
 7 hot air from the outside of the home is finding its
 8 way into the wall cavities of the exterior walls.
 9 A Okay.
 10 MR. PELS: Objection; asked and answered.

kondnerdr.txt

11 THE WITNESS: The reason for that is that
12 you've got condensation in there. You've got
13 water in there. How else are you going to get
14 the water in there?

15 BY MR. SIMPSON:

16 Q Plumbing leak?

17 A I don't think so.

18 Q Roof leak?

19 A I --

20 Q You didn't rule those out, because you
21 didn't even know it happened before today.

22 A Yeah, but they would be localized things.

23 Q Well, where exactly did Mr. Parks find

0135

1 excessive moisture in this wall?

2 A I guess he's got photographs in here where
3 he put his meter, but he found it.

4 well, he's got -- over on Page 4 he's
5 showing one of several areas where mold growth was in
6 the master bath exterior wall, and then he's got the
7 air infiltration shown, and then he's got a photo of
8 the back side of the gypsum board "revealed extensive
9 fungal-like growth."

10 Q Do you know how big that mold sample
11 actually is?

12 A It's probably pretty damn small.

13 Q If I told you the plumbing leak was in that
14 bathroom, you can't rule that out as a possible source
15 of that mold, can you?

16 MR. PELS: Objection; form and foundation.

17 THE WITNESS: It would probably be down at
18 the bottom, not at the top.

19 MR. SIMPSON: You're just guessing.

20 MR. PELS: Objection.

21 THE WITNESS: No. Water runs downhill,
22 friend.

23

0136

1 BY MR. SIMPSON:

2 Q But doesn't water evaporate up?

3 A If it evaporates in there and doesn't
4 recondense.

5 Q You don't know why this mold is growing in
6 this wall, do you?

7 MR. PELS: Objection.

8 THE WITNESS: It's got water inside.

9 BY MR. SIMPSON:

10 Q You don't know the cause of the water.

11 MR. PELS: Objection.

12 THE WITNESS: You've got a hot humid climate
13 and you've got vinyl wallboard on. They spell
14 condensation.

15 BY MR. SIMPSON:

16 Q You haven't ruled out plumbing leaks or roof
17 leaks, correct?

18 MR. PELS: Objection.

19 THE WITNESS: I've ruled them out.

20 BY MR. SIMPSON:

21 Q You just found out about them 15 minutes
22 ago.

23 MR. PELS: Objection.

0137

1 BY MR. SIMPSON:

kondnerdr.txt

2 Q And you've never seen this home.
3 A That's right, and they would be a point
4 source.
5 Q And you don't even know whether the wall
6 leaked relative to where this mold is?
7 MR. PELS: Objection.
8 THE WITNESS: It's up top. Water runs
9 downhill.
10 BY MR. SIMPSON:
11 Q Where is it?
12 MR. PELS: Objection.
13 THE WITNESS: Take a look at the photograph.
14 BY MR. SIMPSON:
15 Q You look at it and you tell me.
16 A It's up top.
17 Q Where?
18 MR. PELS: Objection.
19 THE WITNESS: Figure 3, unless he's got his
20 photograph turned upside down, which I doubt.
21 BY MR. SIMPSON:
22 Q Here's my point, Doctor. The picture with
23 the mold is Figure 5, right?
0138
1 A Yeah, these are a whole sequence here.
2 These are a sequence of a location.
3 Q And how big is the mold behind that
4 wallboard; do you even know?
5 MR. PELS: Objection.
6 THE WITNESS: I don't know, but it shows
7 pretty good in the photograph.
8 BY MR. SIMPSON:
9 Q Do you know whether that's a blowup?
10 A I don't know whether it's a blowup or not,
11 but it's, it's there.
12 Q Do you know anything about the HUD code in
13 relation to whole house ventilation requirements?
14 MR. PELS: Objection.
15 THE WITNESS: I believe I've seen some
16 regulations in there dealing with it, but I don't
17 recall exactly where.
18 BY MR. SIMPSON:
19 Q You're not an expert in those areas, are
20 you?
21 A I'm not an expert in memorizing the code. I
22 don't intend to memorize the code. I'm looking at
23 engineering, strictly engineering phenomena.
0139
1 Q You have never used 103 professionally in
2 your career, right?
3 MR. PELS: Objection.
4 THE WITNESS: I'd have to go look at 103.
5 You're talking about light and ventilation?
6 BY MR. SIMPSON:
7 Q whole house ventilation. Did you ever use
8 that?
9 MR. PELS: Scott, do you want to direct him
10 to the section?
11 THE WITNESS: Oh, yeah, B. 3280.103(b),
12 whole house ventilation. "Each manufactured home
13 shall be capable of providing a minimum of 0.35
14 air changes per hour continuously or at an
15 equivalent" --
16 BY MR. SIMPSON:

kondnerdr.txt

17 Q Stop. Stop. Please stop. I just want to
18 know if you're familiar with it.
19 A I am now, and I saw it before. I just
20 didn't remember it. Hey, I'm not memorizing this
21 book. Get with it, friend.
22 Q Doctor, don't argue with me. Just answer my
23 questions.
0140
1 A And I'm telling you why. I'm not memorizing
2 this thing.
3 MR. PELS: Objection.
4 THE WITNESS: You're trying to make it sound
5 as if because you don't know everything in this
6 book and you can't quote it without looking at
7 the book, that there's something wrong. Hey,
8 let's turn it around and I'll start asking you
9 questions about it and see how far you get.
10 BY MR. SIMPSON:
11 Q I'll probably get a little further than my
12 questions today.
13 A You probably will.
14 Q Have you ever been asked to apply the
15 standard in 103 as an engineer and asked to do the
16 calculations ever in your career?
17 MR. PELS: Objection.
18 You can answer.
19 THE WITNESS: I don't recall so.
20 BY MR. SIMPSON:
21 Q Do you know what the difference between
22 stick-built home ventilation and manufactured home
23 ventilation is?
0141
1 MR. PELS: Objection; form and foundation.
2 You can answer.
3 THE WITNESS: One is in a stick-built house
4 and the other one is in a manufactured home. One
5 of them is controlled by HUD, and the other may
6 be controlled by local code, so you would expect
7 to find variations.
8 BY MR. SIMPSON:
9 Q Does the International Building Code have a
10 similar provision in it to 103 as set forth in the HUD
11 code?
12 MR. PELS: Objection.
13 THE WITNESS: It may have some kind of a --
14 it's not necessarily the same, but it may have
15 some kind of an analogous requirement.
16 BY MR. SIMPSON:
17 Q You think so?
18 A Maybe.
19 Q You don't know?
20 A I'd have to look at it. I don't memorize
21 those either.
22 Q What is a positive operating system?
23 A A positive operating system? Well, I'm not
0142
1 quite sure what you mean there.
2 Q What sort of provisions for ventilation does
3 the Murphy home have within it?
4 A I think it's got a ventilating fan in it.
5 well, it talks about venting the crawlspace,
6 but I don't see anything on the inside yet.
7 Q You don't know what this ventilation system

kondnerdr.txt

8 in the Murphy home is?

9 A Wait a minute.

10 Well, he's bringing air into the house for
11 his heating system.

12 Q Is it a fair statement to say you can't tell
13 the jury how this home is ventilated?

14 MR. PELS: Look at both reports if you need
15 to.

16 MR. SIMPSON: What's that, Jon?

17 MR. PELS: I asked him to make sure he looks
18 at all the reports before he answers, because
19 he's already said he needs to.

20 Scott, how much longer do you want to go
21 before we take more lunch?

22 MR. SIMPSON: I got about five more minutes
23 of questions, and it's real time. It just

0143
1 depends. If he's going to take five minutes
2 between questions, then I can't help that,
3 but . . .

4 MR. PELS: Okay. Let's try to keep going
5 then.

6 THE WITNESS: He's apparently drawing it in
7 through a duct system, because he's got a
8 photograph of it here, and that's apparently
9 coming in from up top, from the roof.

10 BY MR. SIMPSON:

11 Q Do you know what that's called?

12 A It's inducing air into it.

13 Q Do you know what it's called, though?

14 A It's a positive system. You obviously have
15 to have some kind of a ventilating system in there to
16 do that. You're drawing the air through. He's
17 drawing it down from the roof system. It's not going
18 the other way.

19 Q Doctor, what I'm trying to establish is
20 you're just reading his report; you don't have any
21 independent expertise in that particular mechanical
22 system, correct?

23 A I have never seen the system. I have never

0144
1 seen the houses. How am I supposed to know when I
2 haven't been down there? Only thing I got to use is
3 his report. I've told you over and over again.

4 Q You make my point exactly. Let's go on to
5 another question.

6 A Okay.

7 Q On Page 3 of your report, will you turn to
8 that.

9 MR. PELS: We're talking about Bobby Parks'?

10 MR. SIMPSON: No, Dr. Kondner's report.

11 THE WITNESS: Okay, go ahead.

12 BY MR. SIMPSON:

13 Q All right. Third paragraph; do you see
14 that?

15 A Yep.

16 Q Your first sentence there, "In response to
17 the extensive history of complaints of damages caused
18 by these water vapor condensation moisture problems,"
19 you see that?

20 A Yeah, I see that.

21 Q Okay. Where is your data for that?

22 A It's in that big stack of reports that

kondnerdr.txt

23 you've got the titles up. It's in the literature.

0145

1 It's in the literature.

2 Q Can you be a little bit more specific?

3 A No, I can't, because I don't have them here.

4 Otherwise, I would spend a half hour and flip through

5 them and point you right to them, but it's in that

6 literature. Go look.

7 Q It's just somewhere in the literature?

8 A It's in that literature, yes, indeed. It's

9 an extensive literature of it. It's item after item

10 about the damages caused by water vapor condensation.

11 Report after report, study after study after study.

12 You'd think you people in the industry would wise up

13 that you got a problem.

14 Q Well, but you said some homes don't fail and

15 some do, but you've got no judgment as to what

16 percentage, right?

17 MR. PELS: Objection; form, foundation,

18 mischaracterization.

19 You can answer.

20 THE WITNESS: The industry would have to

21 provide me with that data if they ever bothered

22 to check it. I do recall some studies that were

23 done, and it's in that literature again, and some

0146

1 of the percentages I think were on the order of

2 magnitude of 50 percent.

3 BY MR. SIMPSON:

4 Q You think you can point me to something in

5 the literature that shows 50 percent failure rate?

6 A In certain studies, yeah.

7 MR. SIMPSON: Okay. Well, I tell you what.

8 We're not going to do it today, but Jon, I'd like

9 you to supplement his deposition with that if you

10 would.

11 MR. PELS: Sure.

12 MR. SIMPSON: Provide me with the line and

13 page for the 50 percent failure rate. Can you do

14 that?

15 MR. PELS: I can do that.

16 BY MR. SIMPSON:

17 Q Doctor, on Page 5 of your report --

18 A Okay.

19 Q -- Paragraph 2 at the bottom there, and it

20 continues on over to Page 6; do you see that?

21 A I see it.

22 Q Are those the sum total of the things that

23 you believe caused moisture problems in these walls?

0147

1 A You mean of the Murphy home?

2 Q Well, your report from one case to the next

3 are virtually identical, aren't they?

4 A Yeah, but these are generalities, and then

5 on the last page, the last paragraph I go to the

6 individual home. I mean this is in general.

7 Q Right. Other than your last paragraph and

8 the names and the dates, your reports are virtually

9 identical one to the other, right?

10 A Pretty much so.

11 Q Okay, but at the bottom of Page 5 and

12 continuing to Page 6, these are all the things that

13 you think can contribute to condensation problems in

kondnerdr.txt

the walls of this home, right, in a general sense?

MR. PELS: Objection; form and foundation, mischaracterization.

You can answer.

MR. SIMPSON: Well, he can correct me if I'm wrong. I mean it's his report.

THE WITNESS: Yeah, it says what it says.

what do you want? I mean it says, "These individual point defects include leaks and holes in the heating and cooling system, air duct

system, with potential positive pressures in the belly and negative pressures to the living space, drawing in outside water vapor, air, failed return ducts" -- there's a whole general area of things that occur, not all in one particular house, some here, some there, but, you know, we've seen them. We've seen them all.

BY MR. SIMPSON:

Q Well, I'm not arguing with you. I'm just trying to see if you agree that you think that's the general things that caused this problem.

A No, that's not the problem with the vinyl walls. These can cause a lot of problems, and particularly with the floors, I mean leakage, moisture coming up from down in the crawlspace.

Q Sir, you say at the top of that paragraph that there's a variety of defects that cause the outside water vapor to penetrate the exterior building envelope.

A Yeah, well, that's part of the envelope.

Q Okay, the exterior envelope, and then you go on to list all these things that can cause it, right? Leaks and holes in the heating and cooling ductwork,

right?

A Yeah.

Q Positive pressures in the belly and negative pressures in the living space, right?

A You can have these things, yes. We've seen them.

Q And all these things can make the wall problem worse?

A They can if the hole happens to be where the vapor can get to those exterior walls that have the vinyl on the inside part of them.

Q And you don't know whether that's the case in this house or not, do you?

MR. PELS: Objection; form and foundation.

THE WITNESS: This was not meant for this house. This is a general discussion of the types of problems that you have, but we do know, we do know that for this house that Bobby Parks has measured 25 to 40 percent moisture content, and we do know we got mold there, and we do know we got vinyl covering the inside, and we do know we got water in it.

BY MR. SIMPSON:

Q Other than the presence of the vinyl, hypothetically speaking, if we removed the vinyl, is there anything else in this home that's causing it to

kondnerdr.txt

5 condense?

6 A Well, if the thing breathed, if the air
7 could move through and dissipate and diffuse, I don't
8 think you would have had this problem.

9 Q Well, that's my point. You know, you list
10 all these other problems that can cause it. I'm
11 wondering if you relate any of those other problems
12 that can cause it to any particular problem in this
13 specific home.

14 A Well, it could be down in the crawlspace.
15 You might have a problem with your floors.

16 Q I want to know if you know with personal
17 knowledge if any of those other possible causes -- let
18 me finish my question. Are any of the other possible
19 causes you list on Pages 5 and 6 of your report
20 actually having an impact in this house?

21 A That I've seen? I haven't seen any of it.

22 Q That you see or no.

23 A Well, if I remember correctly, Bonney says

0151

1 that the vapor barrier on the ground is okay, so I
2 don't think that you've got that particular problem in
3 this house.

4 Q Can you relate any of the other potential
5 problems you list in your report to problems in this
6 particular house?

7 A Well, you may have some of that where he's
8 got the air leaks in the marriage area in the roof,
9 the upper part, as being, for some reason, holes that
10 are in the envelope.

11 Q Anything else?

12 A I think he's got -- I think he's pointed to
13 the leaks and holes in the heating and cooling air
14 duct system. He's got that photograph, photograph 12,
15 so that would be one thing.

16 Q Who does; Parks?

17 A Parks.

18 Q Let's look at Figure 12. What do you see
19 there?

20 A I see what looks like the duct is not
21 properly connected there.

22 Q What is that duct called; do you know?

23 A That's his air intake.

0152

1 Q Where is it supposed to be?

2 A Well, it's supposed to be where it is,
3 according to Figure 11.

4 Q Well, he says it's inappropriately
5 installed. Do you know why?

6 MR. PELS: Objection.

7 You can answer.

8 THE WITNESS: Where does he say that?

9 BY MR. SIMPSON:

10 Q Next to the picture.

11 A Oh, wait a minute. It may have to do with
12 the flow characteristics of the air through that loop
13 in that system, but you have to ask Parks. That's my
14 interpretation of it.

15 Q Have you ever read the installation
16 instructions for that particular unit?

17 A I've seen it. I don't recall reading all of
18 it. I think it's in the Bonney report. I think it's
19 coupled in there.

kondnerdr.txt

20 Q You're not an air conditioning/heating
21 ventilation expert, are you?
22 A No, no, no.
23 Q I'm not going to push you on that. I'm just
0153
1 trying to figure out where to get my opinions.
2 Do you know the difference between an
3 impermeable wall and a semi-impermeable wall?
4 A Has to do with degree of permeability.
5 Q Yeah, but what degree?
6 A Well, an impermeable would be like the
7 vinyl, which is probably a half a perm, and
8 semi-impermeable, I don't know. It might be five,
9 somewhere in that ballpark.
10 Q Do you know whether the vinyl is permeable
11 or semi-permeable?
12 A The vinyl? It's impermeable, relatively
13 speaking. Nothing is completely impermeable.
14 Q But are you familiar with those industry
15 terms?
16 MR. PELS: Objection; form and foundation.
17 THE WITNESS: I'm familiar with the concept
18 of permeability, because it exists in many
19 different areas.
20 BY MR. SIMPSON:
21 Q No, but are you familiar with and can you
22 say with a degree of scientific certainty the
23 difference between permeable and semi-impermeable
0154
1 products?
2 MR. PELS: Objection.
3 THE WITNESS: Well, I guess for standards
4 I'd probably have to go look in the literature.
5 BY MR. SIMPSON:
6 Q You don't know without looking?
7 MR. PELS: Objection.
8 THE WITNESS: I don't know for sure without
9 looking, but I mean it's like if you want to talk
10 about permeability of soils and things like that,
11 I can handle you there and point out things, and
12 there are variations by the tens of millions
13 between materials.
14 BY MR. SIMPSON:
15 Q Well, can you say with any reasonable
16 degree --
17 A I don't know that there is anything going to
18 be that drastic in these kind of building materials,
19 but there should be large differences.
20 Q Do you know whether vinyl is permeable or
21 semi-impermeable as those terms are generally used for
22 wallboard?
23 MR. PELS: Objection; form and foundation.
0155
1 THE WITNESS: As far as I know, it's called
2 impermeable, because its permeability is low
3 enough.
4 BY MR. SIMPSON:
5 Q What perm ratings should these walls have,
6 in your judgment?
7 MR. PELS: Objection.
8 THE WITNESS: Well, I think it's spelled out
9 in the -- I think it's in 504.
10 BY MR. SIMPSON:

kondnerdr.txt

Q What amount of permeability or gradient of permeability would you say is a healthy, breathable wall?

MR. PELS: Objection.

THE WITNESS: I would say if you've got something on the order of magnitude of ten perms, you've got a healthy wall.

BY MR. SIMPSON:

Q Less than ten, you're going to have problems?

A No, not necessarily.

Q Well, where is the threshold?

MR. PELS: Objection.

THE WITNESS: The threshold is probably somewhere around five, in that area.

BY MR. SIMPSON:

Q You sure?

A I can look it up here if you want.

Q I just want to know, if we were going to rebuild this wall -- sir, if we were going to rebuild this wall to make it permeable, what should our target be for permeability rating?

A Well, I think Roy Bonney has already gone into that. He's got a wall that's just got paper on it.

Q My question is: In your judgment, what number on permeability should we strive to obtain?

MR. PELS: Objection.

THE WITNESS: Something that's better than one perm.

BY MR. SIMPSON:

Q So if we built a wall and we had something -- I just want to know what number should we strive to obtain.

MR. PELS: Objection; form, foundation, asked and answered.

BY MR. SIMPSON:

Q Doctor, you're the only engineer in this case on the plaintiff side. Can you not answer that question without looking at high school graduate reports?

MR. PELS: Objection; move to strike.

THE WITNESS: I told you I gave you a value of five before.

BY MR. SIMPSON:

Q You said one and you said ten. Which is it?

A I said that ten was a good permeable wall, and it says in here, under "Unventilated wall Cavities," under 504(b)(2), it talks about "the covering or sheathing shall have a combined permeance of not less than five perms." Now, ten is certainly better than five, it's more permeable, and one is less, and a half is a lot less.

Q But you're saying our walls are defective, right?

A I'm saying that your walls -- and you had a choice of walls. Your walls do not perform. It is under a heading called "Condensation Control," and it is not controlling condensation.

Q Sir, just answer my question.

kondnerdr.txt

2 A Therefore it does not comply.

3 Q Answer my question. What permeability
4 number should we strive for if we have a new wall?

5 MR. PELS: Objection; form, foundation,
6 asked and answered.

7 THE WITNESS: Something greater than five.

8 BY MR. SIMPSON:

9 Q And other than the HUD code, what basis do
10 you have to rely on that opinion?

11 MR. PELS: Objection.

12 THE WITNESS: Well, I've looked at -- in the
13 literature it gives lists of different materials,
14 and it gives their permeabilities, and if you
15 look at that, you'll find out that most of the
16 materials that -- for example, the wallboard,
17 have permeabilities greater than that.

18 BY MR. SIMPSON:

19 Q Define "permeability."

20 A Oh, that's an interesting question.
21 Basically it has to do with the amount of air that
22 will move through the particular material under a
23 certain head, a certain pressure.

0159

1 Q Can you give me the math to demonstrate the
2 difference between one that's, say, a five and one
3 that's, say, a ten? What's the math? What's the
4 denominator, numerator? What's the equation look
5 like?

6 A Well, I've looked at it. It's in the
7 literature. I don't remember it specifically. I
8 don't memorize those, but it's in there.

9 Q Can you perform permeability calculations?

10 A I could with the use of the literature, yes.

11 Q Without the use of the literature, you could
12 not?

13 A Not sitting right here today. I don't
14 remember that. I didn't memorize it either.

15 Q Do you know what an indoor environmental
16 professional is?

17 A An indoor environmental professional?
18 Probably somebody that is well-versed in the
19 environmental conditions of homes on the inside.

20 Q Don't guess. Do you know?

21 MR. PELS: Objection.

22 THE WITNESS: I don't know a definition of
23 it.

0160

1 MR. PELS: Objection.

2 BY MR. SIMPSON:

3 Q Do you know what the permeability of the
4 ceiling is in the Murphy home?

5 MR. PELS: Objection.

6 You can answer.

7 THE WITNESS: No, I don't.

8 BY MR. SIMPSON:

9 Q Do you know what the permeability of the
10 floor is in the Murphy home?

11 MR. PELS: Objection.

12 THE WITNESS: No, I don't.

13 MR. SIMPSON: That's all the questions I
14 have. You guys want to take a lunch break?

15 MR. PELS: Yeah, maybe just a couple of
16 redirects.

kondnerdr.txt

(Discussion held off the record.)

CROSS-EXAMINATION

BY MR. PELS:

Q Dr. Kondner, I believe you touched on this a little bit in the deposition questions by Mr. Simpson, and you touched on 103 and 504, but I'd like to direct your attention to 505 and tell me if that section came

into play at all in your opinions.

A 505, yeah, air infiltration.

Q Okay, and did that section have any application in your opinions in this case?

A Well, yeah, because it really -- the opaque envelope is supposed to be constructed to limit air infiltration to the living area of the home.

Q Okay. On Page 3 of your report on Murphy, I believe you discuss some percentages of the permeability of the wall.

A Right.

Q Where did you get those formulas?

A It's out of the literature.

Q Okay, and does that demonstrate an application of the formulas?

A Yes.

Q How so?

A Well, these are test values.

Q Okay. Were you asked to render an opinion as to every home, every vinyl-covered home by the plaintiffs in this case that has ever been manufactured?

A No.

Q We talked a little bit about ventilated wall cavities, and I believe Mr. Simpson asked you if you had ever seen any. You have been deposed in the Deese case?

A That's correct.

Q Do you recall -- if you do today, and you may not, but do you recall whether the Deese home was ventilated or not?

A I don't think it was.

Q Okay. And you got into discussion about linear, and I don't -- I wasn't clear on what the definition of "linear" was, and how does linear come into play, I guess, as it respects the moisture in the walls, if at all?

A Well, linear would be if you double one thing, you double something else, so it would be a linear variation.

MR. PELS: All right. I don't have any other questions.

REDIRECT EXAMINATION

BY MR. SIMPSON:

Q Doctor, following up on Mr. Pels' question, you said 505 played some part in your opinions in this

case?

A Yeah, I think it does, because then it goes into envelope penetrations.

Q All right. What is the opaque envelope in this home?

A What is it?

Q Yeah.

kondnerdr.txt

8 A It's the, it's the envelope that you're
9 trying to develop to keep air from flowing through.
10 Q What part of the wall is the envelope?
11 A What part of the wall is the envelope? The
12 vinyl, the vinyl covering would be that part of the
13 envelope. It's the lowest permeability.
14 Q And the purpose of an opaque envelope is to
15 limit air infiltration, right?
16 A Right.
17 Q And the vinyl is impermeable as you've just
18 testified, right?
19 A Pretty much so.
20 Q Okay. So if the opaque envelope is the
21 vinyl and it limits air infiltration, then it's
22 performing the way 505 says it's supposed to, right?
23 A It's limiting the air, but that's part of
0164
1 the problem in that you had choices back here in
2 504(B), and they took one that did not work. It
3 doesn't control condensation. Somebody screwed up.
4 Let's put it that way.
5 Q You're not saying in this case that this
6 home is in violation of 505?
7 A 505?
8 Q Yeah.
9 A No, I'm not saying it's in violation of 505.
10 I'm just saying this choice that was made back in 504
11 doesn't work.
12 Q Would you agree that you don't have as much
13 experience from an engineering standpoint in the HUD
14 code area as somebody with 30 plus years of experience
15 designing, testing and labeling manufactured homes
16 specifically?
17 MR. PELS: Objection.
18 You can answer.
19 THE WITNESS: I think you'd have to look at
20 the specific item.
21 BY MR. SIMPSON:
22 Q Well, you don't have that kind of
23 experience. You don't have that kind of direct,
0165
1 hands-on manufactured housing experience, right?
2 A No, it's not extensive, but when you're
3 getting to an issue which may have to do with testing
4 or deflections, you're back in structural engineering,
5 and that's a different ball game.
6 Q Have you reviewed the DAPIA package for this
7 home?
8 A No, I haven't.
9 Q You don't really know what aspect of the
10 wall is the opaque envelope, do you? You're guessing.
11 MR. PELS: Objection.
12 THE WITNESS: That's what it says.
13 BY MR. SIMPSON:
14 Q Well, if I told you the opaque envelope is
15 the exterior sheathing, what evidence would you have
16 to say that I'm wrong about that?
17 A Well, I don't think that would be a very
18 limiting air infiltration.
19 Q You don't have any evidence to disagree with
20 me, do you?
21 A I don't have any evidence to agree with you
22 either.

kondnerdr.txt

23 Q You just don't know?
0166
1 MR. PELS: Objection.
2 You can answer.
3 THE WITNESS: Logic tells you that what you
4 said is not going to -- is not true. It's
5 illogical.
6 BY MR. SIMPSON:
7 Q But you don't have experience in the
8 manufacture manufactured housing industry to know
9 whether I'm right or wrong on that particular issue,
10 do you?
11 MR. PELS: Objection.
12 THE WITNESS: No, but general experience is
13 a factor. I mean no, I haven't looked at and I
14 haven't been participating in the building of
15 these things in the factories or anything like
16 that, but there's a lot of things in engineering
17 that engineering principles apply, and one of
18 them is the condensation control. Now, if you
19 put that vinyl on that inside surface, that's
20 poor engineering practice, plain and simple.
21 BY MR. SIMPSON:
22 Q Can a manufacturer build a home outside the
23 HUD code, or do they have to comply with the HUD code?
0167
1 MR. PELS: Objection.
2 THE WITNESS: They have to comply with the
3 HUD code. They may get variations from the HUD
4 code on certain items if HUD allows it.
5 BY MR. SIMPSON:
6 Q Do you know what the purpose of the HUD code
7 is?
8 MR. PELS: Objection.
9 THE WITNESS: To regulate the industry.
10 BY MR. SIMPSON:
11 Q Do you know what the stated purpose in the
12 manufactured housing statute is?
13 MR. PELS: Objection.
14 THE WITNESS: I don't know that I've seen it
15 or read it. Maybe I have. Enlighten me.
16 Enlighten me.
17 BY MR. SIMPSON:
18 Q I just want to know if you know.
19 A Do you know?
20 Q Oh, yes.
21 A Oh.
22 Q Do you?
23 A Not that I recall. I may have read it, I
0168
1 may have seen it, but I don't recall it.
2 Q Do you know what the Consensus Committee is?
3 A The Consensus? It must be a committee that
4 has consensus on problems that affect them.
5 Q Do you know specifically what the Consensus
6 Committee is with respect to HUD code regulations?
7 A I probably have to look up your definition
8 back here.
9 Q Doctor, let's not guess or play games. Do
10 you know or don't you?
11 MR. PELS: Objection.
12 THE WITNESS: No, I don't recall any
13 specific language to that effect.

kondnerdr.txt

14 BY MR. SIMPSON:
15 Q Do you know how HUD code regulations are
16 made?
17 A I don't know how they're made. They're made
18 by somebody.
19 Q Have you ever participated in the making or
20 changing of a single HUD code regulation in your life?
21 MR. PELS: Objection.
22 You can answer.
23 THE WITNESS: No, I haven't.

0169

1 BY MR. SIMPSON:
2 Q Have you ever met anybody that worked for
3 HUD?
4 A I probably have. I don't recall them.
5 There's probably enough of them running around.
6 Q Can you name me a single person that works
7 in the department of HUD that deals with manufactured
8 housing?
9 MR. PELS: Objection.
10 THE WITNESS: Offhand I can't. I don't see
11 any relevance anyway.
12 BY MR. SIMPSON:
13 Q Well, I just thought that you might -- since
14 you're rendering HUD code opinions, you might know the
15 people who regulate the industry.
16 MR. PELS: Objection; form, foundation,
17 mischaracterization.
18 You can answer.
19 Is that a question?
20 BY MR. SIMPSON:
21 Q Yeah, do you know anybody that regulates the
22 industry in HUD?
23 MR. PELS: Objection; asked and answered.

0170

1 You can answer again.
2 THE WITNESS: Well, I recently came across a
3 document by Menschner or something like that. It
4 began with an M.
5 BY MR. SIMPSON:
6 Q Never met the guy?
7 A Never met the guy.
8 Q Can't even pronounce his name?
9 A I can't even pronounce his name.
10 MR. SIMPSON: That's all the questions I
11 got.
12 MR. PELS:
13 (Signature having not been waived, the
14 deposition of DR. ROBERT L. KONDNER was concluded
15 at 2:02 p.m.)
16
17
18
19
20
21
22
23

0171

1
2
3 ACKNOWLEDGEMENT OF WITNESS
4

kondnerdr.txt

(DATE)

(SIGNATURE)

CERTIFICATE OF SHORTHAND REPORTER -- NOTARY PUBLIC

I, Laurie Bangart-Smith, Registered Professional Reporter, the officer before whom the foregoing deposition was taken, do hereby certify that the foregoing transcript is a true and correct record of the testimony given; that said testimony was taken by me stenographically and thereafter reduced to typewriting under my supervision; and that I am neither counsel for, related to, nor employed by any of the parties to this case and have no interest, financial or otherwise, in its outcome.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my notarial seal this 3rd day of January, 2008.

My commission expires: March 14th, 2011

LAURIE BANGART-SMITH
NOTARY PUBLIC IN AND FOR
THE DISTRICT OF COLUMBIA